

REMARKS

Upon entry of this Reply, claims 22, 31, 32, 34, 35, and 38 will remain in this application.

Claim 22 was again rejected, along with dependent claims 31 and 38, as being unpatentable over U.S. Patent 5,803,162 to Karbach et al. in view of U.S. Patent 4,262,659 to Brzezinski and U.S. Patent 4,546,825 to Melnyk et al. Dependent claims 33-35 were also rejected based upon these references and further in view of German publication 2,102,744 to Kim. Reconsideration is requested.

As amended above, claim 22 incorporates limitations previously appearing in claims 9 and 33 of this application. It is respectfully submitted that no possible combination of the Karbach et al., Brzezinski and Melnyk et al. patents relied on would result in a heat exchanger manufacturing method comprising all of the "providing", "arranging" and "welding" operations now specified by claim 22. Bolts 3 of the Kim heat exchanger, moreover, do not constitute spacing elements provided on rectangular tubes and facing adjacent tubes as claim 22 requires, and no possible combination of the Karbach et al., Brzezinski, Melnyk et al. and Kim documents would result in the heat exchanger manufacturing method now defined by claim 22.

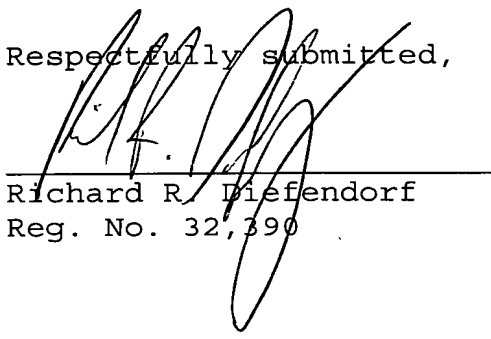
It is respectfully submitted that claim 22 as amended above is patentable. The dependent claims remaining in this application are patentable as well. All claims remaining in this case, therefore, are now patentable.

This application is now in condition for allowance. Should the Examiner have any questions after considering this

Reply, the Examiner invited to telephone the undersigned attorney.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims appearing below, additions are underlined and deletions are bracketed.

22. (Five times amended) A method of manufacturing a heat exchanger for cooling exhaust gas of an internal-combustion engine, said method comprising the steps of:

providing a plurality of rectangular tubes for guiding exhaust gas;

arranging a plurality of lugs in said rectangular tubes diagonally to a flow direction of the exhaust gas, in pairs, by one of (a) directly attaching the lugs to opposite walls of said tubes and (b) integrally forming the lugs from said opposite walls of said tubes, and providing said rectangular tubes with spacing elements facing respective adjacent rectangular tubes;

providing first and second latticed tube bottoms;

welding ends of said rectangular tubes to said latticed tube bottoms such that said rectangular tubes form a bundle;

attaching a sheet metal jacket to said tube bottoms and around said bundle;

providing said sheet metal jacket with a coolant inlet and a coolant outlet to allow a liquid coolant to flow around said rectangular tubes in said sheet metal jacket; and

attaching connections to said tube bottoms, to ends of said sheet metal jacket, or to both said tube bottoms and ends of said sheet metal jacket, said connections being configured

for attachment to an exhaust pipe communicated with the exhaust gas from the internal-combustion engine, each said connection defining a central opening for communicating said rectangular tubes with the exhaust pipe.

34. (Amended) A method according to Claim [33] 22, wherein the spacing elements are integrally formed from said tube walls.